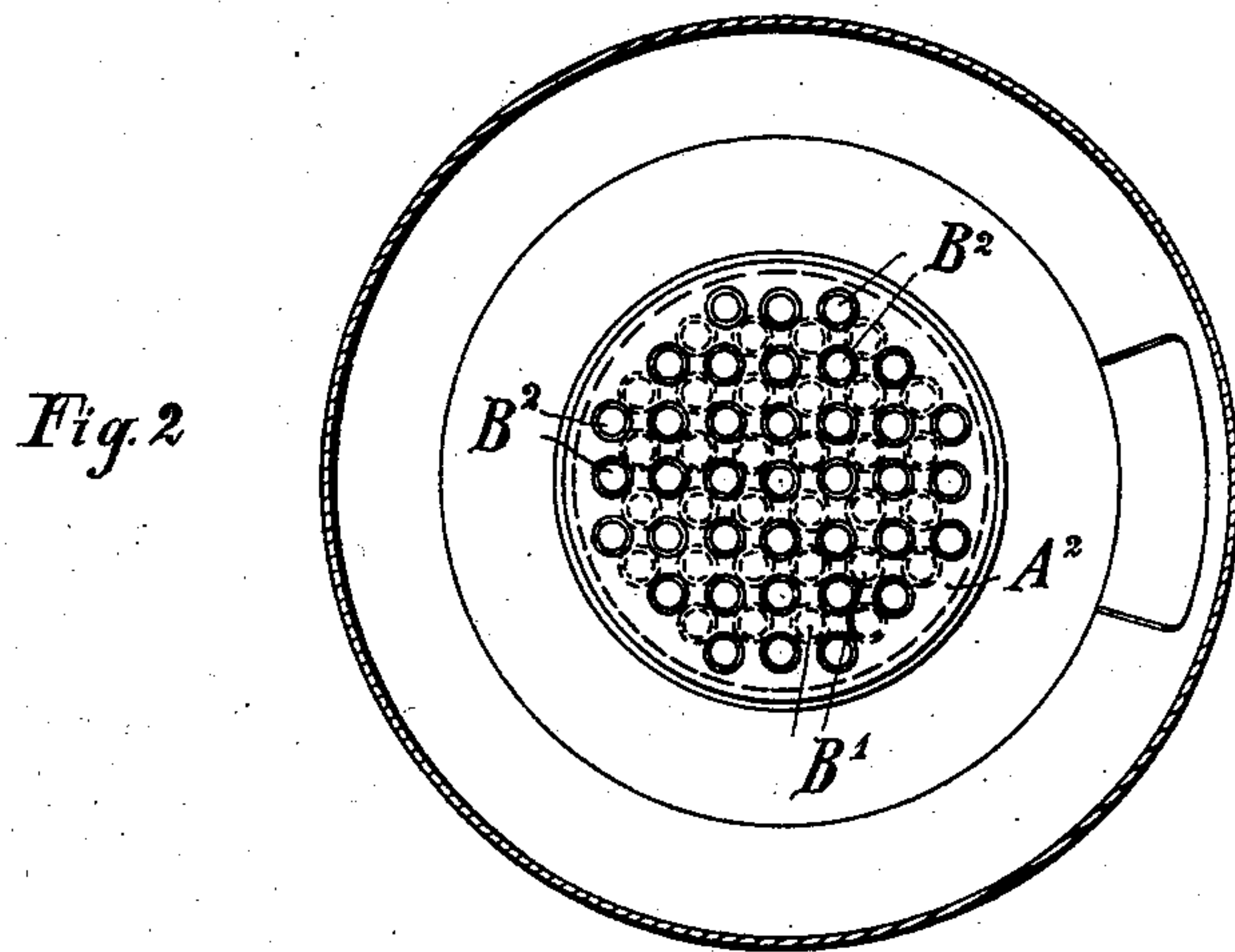
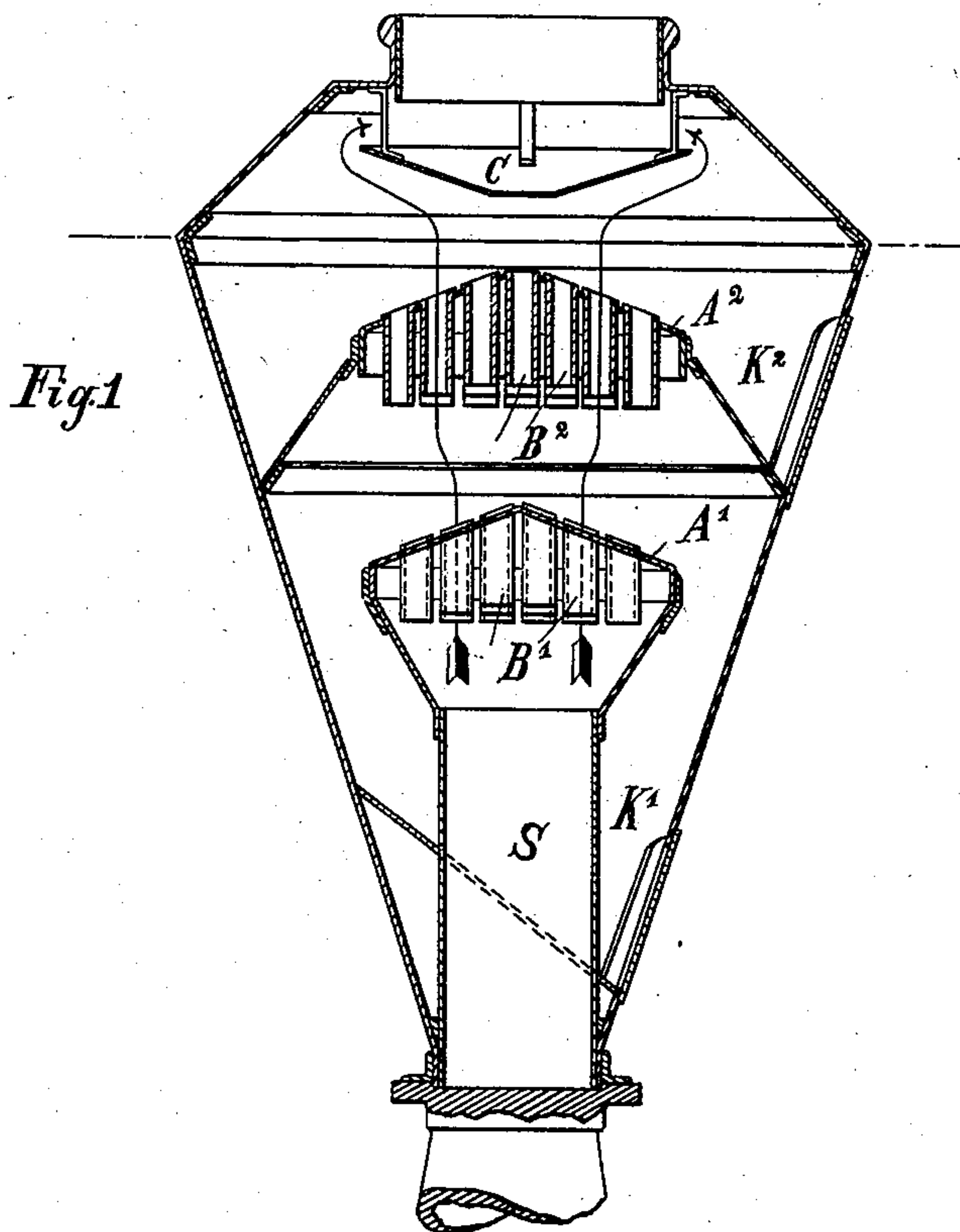


(No Model.)

P. HAGEMANN & H. PASLER.
SPARK CATCHER.

No. 603,378.

Patented May 3, 1898.



Witnesses:
E. R. Polton
O. Munn

Inventors:
Paul Hagemann
Heinrich Pasler
By *Richard*
their Attorneys

UNITED STATES PATENT OFFICE.

PAUL HAGEMANN AND HEINRICH PASLER, OF STETTIN, GERMANY.

SPARK-CATCHER.

SPECIFICATION forming part of Letters Patent No. 603,378, dated May 3, 1898.

Application filed February 25, 1897. Serial No. 625,066. (No model.)

To all whom it may concern:

Be it known that we, PAUL HAGEMANN and HEINRICH PASLER, residents of Stettin, in the Kingdom of Prussia, in the German Empire, have invented certain new and useful Improvements in Spark-Catchers, of which the following is a specification.

The present invention relates to improvements in spark-catchers. Its object is to furnish a secure means for preventing the sparks of locomotives, locomobiles, &c., from being projected out of the machine and creating damage. To attain this object, we place at a suitable place in the smoke-stack S a plate A', which is provided with a system of short pipes B'. These pipes (which may be made of old boiler-tubes) are disposed parallel in the simplest way. It is, however, not necessary that these pipes be round. They may be as well of any other form, and be bent or fastened in conical form in the plate A'. This pipe system, (pipe-sieve,) which must have an open passage at least as large as that of the smoke-stack, divides the stream of the escaping products of combustion, and the several branches of the same take the direction of the pipes through which they pass.

A certain number of the sparks carried off by the gases of combustion will be caught and extinguished by this sieve. Those sparks, however, which might not be caught by this sieve encounter a second pipe-sieve A² B², which is generally of the same construction as A' B', but are displaced in such a way that the opening of each pipe of the system A' B' encounters a closed surface of the system A² B².

The sparks carried by the gases of combustion when escaping from the sieve A' follow at first the direction given to them by the pipes through which they have passed, engage themselves between the pipes of the system B², and are caught by the plate A². The light gas, however, describes a slight curve and arrives in the pipes B², through which it escapes. The extinguished sparks are collected in the chamber K'.

Some few sparks which might find their way through the pipes B² are thrown against the plate C and collected in the chamber K². In case the combustible used produces but few sparks the plate C may be replaced by a wire sieve, and in this case the gas of combustion passes the smoke-stack nearly without deviation from the direction of the axis of the same. The pipe-sieve A² B² is adjustable, so that the distance between the two sieves may be regulated according to the kind of sparks. Dimensions of the pipes have also to be adapted to the kind of combustion and the products of the same.

If the formation of sparks is very strong—as, for instance, in the case of sawdust or pulverulent brown coal being used as combustibles—it may become necessary to arrange a third sieve, which has also to be fitted in such a way that the openings of its pipes do not meet the openings of the pipes of the lower sieve. In locomotives these pipe-sieves may be arranged in the smoke-chamber below or around the exhauster and in suitable distance instead of placing them in the smoke-stack.

We claim—

In combination with the smoke-stack of inverted-cone shape, the pipe S extending up within the same and having an enlarged closed hood, a series of pipe-sections passing through the hood and forming a plurality of discharge-openings equaling in total area the area of the pipe S, the partition above said hood having a plurality of pipe-sections arranged out of line with the lower pipe-sections, the contracted opening in the upper end of the stack and the deflector-plate beneath the same, substantially as described.

In witness whereof we have hereunto set our hands in presence of two witnesses.

PAUL HAGEMANN.
HEINRICH PASLER.

Witnesses:

MAURICE J. HAHLO,
ELSE KELLER.